

## ABSTRACT

In a maintenance system for a switch fabric in an optical switching network, a test signal is generated and multiplexed with the incoming traffic signal to form a composite signal. The composite signal is transmitted through the switch fabric via the traffic channel and then demultiplexed back into the traffic signal and the test signal, both of which are monitored by one or optical performance monitors. Thus, if the traffic signal is found to be defective, it is easy to determine whether the cause is the switch fabric or the incoming optical traffic signal that was already bad before entering the switch fabric.